

Title (en)

Light emitting diode lighting appliance and light emitting diode emergency light using the same

Title (de)

Beleuchtungsanordnung mit Leuchtdioden und Notlicht mit einer Solchen

Title (fr)

Dispositif d' éclairage à diode électroluminescente et éclairage de sécurité comprenant le même

Publication

**EP 1521031 A2 20050406 (EN)**

Application

**EP 04256072 A 20040930**

Priority

JP 2003342134 A 20030930

Abstract (en)

An LED lighting appliance (1,26) is provided with; a housing (6) having an open end and a bottom (6a), an LED (2), a lens (3), and a lighting device (8,27) for lighting the LED (2), respectively accommodated in the housing (6), wherein the LED (2) is placed to the bottom (6a) of the housing (6), the lens (3) has a barrel-shape body having a concave incidence end (3a) directly facing the LED (2), a generally flat exit end (3b) exposing to the open end and a sidewall (3c) bulging in a barrel-shaped, wherein the concave incidence end (3a) is defined that a light, emitted from the LED (2) and entered in the barrel-shape body at around the center of the concave surface (3a), performs substantially a total reflection on a major portion of an interface defined by the sidewall (3c), and the reflected light refracts at the exit end (3b) and exits from the barrel-shape body in the receding direction from a central axis of the barrel-shape body.

IPC 1-7

**F21S 9/02**; **F21V 5/04**; **H01L 33/00**; **F21W 101/02**

IPC 8 full level

**F21S 8/02** (2006.01); **F21S 9/02** (2006.01); **F21V 5/04** (2006.01); **F21V 7/00** (2006.01); **F21W 107/10** (2018.01)

CPC (source: EP US)

**F21S 8/02** (2013.01 - EP US); **F21S 9/022** (2013.01 - EP); **F21V 5/04** (2013.01 - EP US); **F21V 7/0091** (2013.01 - EP); **F21V 21/04** (2013.01 - EP); **F21Y 2115/10** (2016.07 - EP US)

Citation (applicant)

- JP 2003342143 A 20031203 - SUNSTAR INC
- JP 2002543594 A 20021217
- JP H11162232 A 19990618 - MATSUSHITA ELECTRIC WORKS LTD

Cited by

DE102008051187A1; DE102007040573A1; DE102008051187B4; US7744259B2; WO2007068046A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

**EP 1521031 A2 20050406**; **EP 1521031 A3 20080227**

DOCDB simple family (application)

**EP 04256072 A 20040930**